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The Operative Treatment of Backward Displacements of the Uterus.

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THE OPERATIVE TREATMENT OF BACKWARD DISPLACEMENTS OF THE UTERUS.

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It might seem that some apology is necessary for addressing this Society on so trite a subject, but retro-positions, like the poor, we have always with us, and the question as to the best method of relieving them is by no means settled.

As I can hope neither to excite the admiration of this meeting by reporting any brilliant results of my surgical activity, nor to illuminate its proceedings by the contribution of any new discoveries, I have concluded, metaphorically, to sit down in the lowest seat, by recounting some of my failures, hoping that a study of the causes of ill-success may lead others to avoid it, and that a discussion of the subject by this learned body may establish rules of action which will restrain the eagerness of the rash, guide the endeavors of the inexperienced, and confirm the methods of the judicious.

By voluntary limitation of the subject, I leave untouched the whole matter of pessaries and tampons, taking it for granted that few cases, if any, will be subjected to operation in which these means have not been already tried and proved unsatisfactory.

And yet I would suggest as a question worthy of discussion whether operative treatment be not preferable to the use of pessaries for the relief of *retroflexion* in general, and particularly in unmarried women. It is well known how extremely unsatisfactory are the results from the treatment of this condi-

tion by pessaries, and I think that too little attention is given, on the one hand, to the bad moral effect of subjecting a virgin to frequent and long-continued local treatment, and, on the other hand, to the real and positive dangers involved in such manipulations, if, as is usually the case, the sound is used to replace the retroflexed uterus. I have repeatedly had to operate for serious disease of the uterine appendages, in cases where the cause of the salpingitis appeared to be ill-advised local treatment, and that, too, at the hands of men supposed to be competent and careful. I have even known death to result from the use of the sound in replacing a retroverted uterus, although no violence was used, and it was not supposed at the time that any harm was done. Given, therefore, a case of decided retroflexion in a virgin, where the symptoms are so severe as to demand relief, I am disposed to think that we are justified in advising an operation for the cure of the malady as soon as it is detected. In married women it is probably better to try the effect of a pessary until it is demonstrated, as it usually will be, that the treatment is unsatisfactory, the hope of cure illusive.

With retroversion the case is somewhat different. Occurring usually in married women, often caused by an accident, or due to sub-involution, there is a reasonable hope of a real cure by the use of packing and pessaries, especially if, under judicious treatment, pregnancy occurs, with normal convalescence after labor.

In such cases we may say that the retroversion is only an accident, or a symptom, and that when the uterus is restored to health, and the round ligaments have recovered their strength, the retroversion will probably not recur. If it does, and if the symptoms are severe enough to warrant operative interference, or if the discomfort and annoyance of wearing a pessary lead the woman to ask for relief, operation is indicated.

Thus far we have been considering simple displacements, but far more numerous, serious, and important are the cases where

the displacement is complicated—that is, where it is rather an effect of some other trouble than a disease in itself. This opens one of the most obscure and unsatisfactory chapters in practical gynecology; a real opprobrium of our art, in the frequency of erroneous diagnosis, long-continued treatment, and discouraging results.

I do not mean that such mistakes and errors are necessary or unavoidable, but simply that they do occur, and that, too, far too often.

The complications of backward displacements are:

Weakening or rupture of the perineum;
Ovarian tumor in the pelvis;
Myomatous growths in the uterus;
Inflammation of the uterine appendages;
Adhesions.

The repair of injuries of the pelvic floor and perineum will not be considered here, as it is not within the scope of this paper, and as it is obvious that retroversion caused by such injuries should be relieved by repair of the sundered structures. It may be noted that some authors propose to trust to the Alexander-Adams operation to cure retroversion and even prolapse of the uterus, even where the perineum is ruptured; but I hardly think that such a course has found followers in this country, where the repair of the perineum, and of the cervix, if necessary, will always be performed, so that the retroversion, if not cured thereby, will be "simple," and if not too severe may be relieved by treatment, or may be cured by operation, either at the time of the perineal repair or afterward, as may be thought judicious.

The same reasoning will apply to cases where the uterus is retroverted by the pressure of an ovarian tumor, or by the weight of a growth in its own substance. The displacement is such a subordinate condition in these cases that its cure can only be secured after an operation directed to the removal of the exciting cause of the retroversion, when, as the last step in the major operation, it may be found useful to fasten the

uterus forward by shortening the round ligaments from the inside, or by fixation to the abdominal wall. More often, however, the uterus will resume its normal position when the pressure which had displaced it is removed.

Passing over these conditions, there remains the great class of women who have retroversion, or what is called by that name, and who "cannot wear a pessary." Here is an abundant source of errors in diagnosis and mistakes in treatment, not only among the ignorant, but also among the numerous physicians who, doing a large general practice, also "make a sort of specialty of women's diseases."

I may go further, and say that much energy is wasted and much harm done in gynecological clinics where out-patients are treated more faithfully than wisely.

It is certain that the clinics are encumbered with chronic cases of retroversion "with adhesions," and that there are large numbers of women who are drifting about from one doctor to another, vainly seeking to have a pessary adjusted so that they can wear it; patients whose sufferings are pitiable, whose recovery is improbable, and whose loss of faith in the resources of our art is excusable. Nothing but operation will cure most of these cases, and it is unjust to the patients and discreditable to the profession to continue a useless treatment, based on a faulty diagnosis, or directed by a false idea of pelvic pathology.

What, then, is the true condition of the pelvic organs in these women who are told that the uterus is bound by adhesions, or in whom, as the patients say, "the womb is grown to the back passage?"

I think that there is a very widespread and erroneous idea that, as a rule, the adhesions are directly between the uterus and the posterior surface of the pouch of Douglas, whereas, in my experience, this is one of the rarest of conditions. That it may exist I do not deny. I have found, at an autopsy, such adhesions, the remains of long antecedent inflammation, and I have published a photograph of the case as a rarity.

Once I found such adhesions during an operation, but only once. I appeal to the members present to state the result of their own experiences at autopsies or operations, as to the frequency of simple adhesions between the uterus itself and the posterior surface of the peritoneum, independent of disease of the uterine appendages.

I am sure that the number of cases of such adhesions really seen will be ridiculously small in comparison with the number of women who are being industriously packed and "massaged" for the relief of adhesions.

To what, then, is the uterus adherent, or what holds it so that it cannot be lifted out of the pelvis, and why are some cases relieved, at least, by packing and massage?

In the first place, in a very considerable number of cases there are no adhesions at all, but the retroverted uterus is held down by the spasmodic contraction of the abdominal muscles acting on the intestines, which lie on the superior and anterior part of the uterus, and are usually overladen with fecal contents. Rest in bed, catharsis, and bimanual manipulation under ether will do as much for these cases in two days as packing will do in six months. I have more than once been able to replace such uteri in women who had long been treated for adherent retroversion, and I am sure that the members of this Society have had similar experiences.

When adhesions are really present, however, they are almost invariably between the tubes and ovaries, on the one hand, and the intestines and omentum, or pelvic wall, or both, on the other. When the uterus itself is involved it is as an extension of this process, and the adhesion is to intestines, omentum, or tube.

The adhesions may vary all the way from a simple band, the result of some long-past inflammation, to a conglomerate mass of appendages, intestines, and omentum, firmly held together by dense and broad bands—in fact, almost anything may be found except the posterior adhesions of the uterus to

the pelvic wall, which are so vividly present in the minds of so many worthy practitioners.

Next in order come conditions which ought not to be classed as adhesions at all, but which give rise to all sorts of errors of diagnosis. There are distention of the tubes, with pus or other fluid; ovarian abscesses; little ovarian cysts, especially inflamed and adherent dermoids; serous cysts or cavities shut in between adherent intestines, masses of thickened omentum, tubal pregnancy, tubercular peritonitis, hæmatoma, etc.

It would be out of place here to enter on the subject of the differential diagnosis of these conditions. They cannot be distinguished without a laborious study of practical gynecology, and often enough no clear diagnosis can be made until the abdomen is opened. Sometimes it is only with difficulty that a diagnosis can be really established by the careful examinations of the specimens by a skilled pathologist.

I have enumerated these various conditions, however, because the very difficulty of distinguishing the real pathological condition becomes of the first importance in selecting the operation to be performed for the cure of backward displacements.

Although I may seem to some to be behind the times, I cannot resist the conviction that few women really require operation for *simple* retroversion. If there are no complications on the part of the tubes and ovaries, no impairment of the pelvic floor or perineum, no disease of the uterus itself, the retroversion ordinarily can be supported so easily by a pessary that few women will demand operation, especially if they are instructed in the art of introducing the pessary themselves. When this does not give relief, when it cannot be worn, there are probably some complications present. When the woman wishes to be relieved of the inconvenience and embarrassment of the pessary, and asks for operation, it may well be performed as a matter of election, where it would not be right to urge it as a matter of necessity.

In regard to retroflexion, the case is somewhat different. The severity of the symptoms, the youth and virginity of many or most of the patients; the consequent necessity of giving an anæsthetic, even in order to introduce a pessary; the little likelihood of any relief from the latter; the probability of a warped and unhappy life if nothing is done; the greater probability that the unhappy patient will have her modesty impaired by continuous treatment by a series of physicians, and will finally have her tubes infected by an unclean sound, or by bungling manipulation at the hands of some of her advisers; all these facts and all these probabilities make the indications clear that in retroflexion in young persons, where the symptoms are severe enough to require local treatment, an operation may be advised at once.

The principle surgical measures for the relief of backward displacements, which have received any serious consideration, are:

Schultze's: Bimanual manipulation under anæsthesia, stretching, and rupture of adhesions by finger in rectum and by fingers on the abdomen.

Schuecking's: Ante-position of uterus by bimanual manipulation and by sound, if necessary; fixation in anteflexion by ligature carried through uterine wall at fundus and forward between bladder and uterus by means of special sheathed needle.

Freund's: Sewing utero-sacral ligaments to posterior wall of Douglas's pouch; obliteration of the pouch by aseptic adhesive inflammation by use of iodoform gauze.

Alexander-Adams': Shortening of round ligaments at inguinal ring, or by entering roof of canal of Nuck.

Wylie's: Shortening round ligaments by folding each on itself and sewing the fold together.

Polk's: Bringing slack of round ligaments together in front of the uterus, and fastening one ligament to the other by sutures.

Ventro-fixation: Fastening uterus to anterior abdominal wall by sutures.

Combination of Wylie's operation and ventro-fixation.

In regard to Schultze's operation, it may be dismissed as practically obsolete. It was born of the dread of opening the peritoneal cavity, which led men in many ways—and leads them still—to incur greater risks, which are unknown and uncertain, in order to avoid lesser dangers which can be perceived, estimated, and controlled. I have done the operation repeatedly before I knew any better, and I have to thank good luck and gentleness that I had no bad results, and attained a measure of success.

There is no doubt that with skilful manipulation under an anæsthetic, in suitable cases, the uterus may be set free, various bands of adhesions may be sundered, adherent tubes liberated, and finally the womb can be brought forward, so that with some subsequent packing and the use of a pessary the patient will be comparatively comfortable. But at what a risk? It is a case where "fools rush in where angels fear to tread." Leaving out of consideration the grosser dangers of pushing the finger through the rectum, or of setting up serious internal hemorrhage, we must consider the danger of squeezing pus out of the abdominal end of a diseased tube or of injuring the intestines where they are adherent to the tubes or to each other. The "bands of adhesions" that I saw in my imagination in 1886, and separated with a light heart, are very different from the intimate union between coils of intestine, between intestine and tube, between tube and uterus, roofed in by adherent omentum, complicated, perhaps, by old and quiescent collections of pus in the tubes or ovaries—conditions which now are ever before my mental vision—since it has been trained by experience and clarified by reflection.

I would not give so much space to this subject, but simply condemn the operation by name, were it not that I see evidences in a newer generation of a similar foolhardiness in regard to separating "adhesions" in performing Alexander's

operation. Of which more anon. If ever there is occasion for the *mens presaga mali*, it is in separating "adhesions" through the rectum or through the abdominal wall.

It is hard to be either patient or serious in considering Schuecking's operation. It is difficult to see how perverted ingenuity could devise a more unsurgical or dangerous procedure. Unlike the operation just considered, which, invented before the recent developments in gynecology, was at least in harmony with its time and a serious attempt to relieve severe suffering, Schuecking's operation is an offshoot of the wanton recklessness which will risk a great injury knowingly rather than proceed on safer lines where action can be guided by knowledge. It is obvious that it is only applicable to cases in which the uterus can readily be brought into complete anteflexion, and in such, if the necessity for operation is established, the choice of method is, for the easiest and safest. Yet this operation proposes to trust to a curved needle working in a sheath to puncture the uterus from within outward, and to blindly invade the region between the base of the bladder and the uterus, tying the womb forcibly forward for a time with one or two ligatures, and trusting to the adhesions thus established in order to hold the organ in its unwonted position.

If the anterior vaginal wall is incised and the bladder and ureters separated from the uterus carefully and skilfully, as suggested by Saenger, and if the uterine canal is perfectly disinfected and all the steps of the operation are carried out just as designed, there is no doubt that in many cases the uterus will be fixed in anteflexion as intended, but there is also little doubt that this difficult and intricate operation often fails of its purpose, and good operators report cases of injury to the bladder and uterus, suppuration, interference with the function of the bladder, etc., so that, in spite of the ingenuity with which the operation was devised, it cannot be considered as worthy to be compared with shortening of the round ligaments, or with ventro-fixation.

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Of Freund's operation it may at least be said that it need not be condemned in principle. Our experiences with vaginal hysterectomy show that there is little or no danger in opening the cul-de-sac of Douglas. With great care and a high degree of skill the sutures can be introduced in such a way that the cervix is held up and back, and it seems altogether probable that the pouch of Douglas will be closed by aseptic adhesive inflammation after packing with iodoform gauze. Drainage is provided in a safe and certain way.

The objections to the operation are that for perfectly simple cases it is unnecessarily difficult and severe, more so than Alexander's operation, while in complicated cases it does not offer the certainty of sundering all adhesions and removing diseased appendages which abdominal section gives, and therefore an intra-abdominal operation is to be preferred in such cases. Moreover, it is doubtful whether the sutures can be placed so as to securely hold the uterus without more danger of wounding the rectum or other intestines than most operators would like to incur. At the best it is only applicable to retroversion, for it does not correct a retroflexion of the uterus, but would rather aggravate it.

It is not necessary to consider various other ingenious and hazardous schemes which have been invented and tried with more or less success, but which are too dangerous and too uncertain to justify their use. It is evident, therefore, that the choice of operative measures for the cure of retro-displacements of the uterus is practically limited to the Alexander-Adams operation, to abdominal section with internal shortening of the round ligaments, to ventro-fixation, or to a combination of these methods, which I may call intra-abdominal or combined ante-fixation.

In considering the relative merits of these operations I must confess that I find myself somewhat at variance with the tendency of the times and with the opinion of a large number of gynecologists whose views are entitled to the utmost consideration. In spite of the facility with which the Alexander

operation can usually be performed, and notwithstanding the fact that very satisfactory results are often obtained by employing it, there are certain disadvantages which are real and positive, and which are not to be lost sight of in the general praises which are bestowed on the operation:

These disadvantages are:

1. The finding of the round ligaments is often extremely difficult, and the extensive and protracted search is attended with grave dangers, even in skilled hands, much more so when the operation is performed by men without thorough surgical and anatomical knowledge.

2. The ligaments are often of extremely slight development when found, so frequently, in fact, that it seems as though retro-displacements were often the consequence of this want of development; such slender ligaments are difficult to find, they are easily broken during the operation, and they are insufficient to support the uterus afterward.

3. The wounds are particularly liable to suppurate, much more so than a median incision is, and this is due:

a. To the extensive injury to the tissues that so often occurs in search for the ligaments.

b. To the fact that the loop of ligament left in the depth of the wound is injured in its vitality, separated from its nutrient supply, pierced and strangulated by the sutures which hold it in its new position.

c. Because the incision for the Alexander operation opens cellular spaces which cannot be closed by sutures, as can those opened by the median incision.

4. If the part of the round ligament which is drawn out be cut off there is danger not only that it will slip away when the sutures are removed, and thus leave the uterus with no support, but in thus slipping back the peritoneal cavity may be infected.

5. There are two wounds in Alexander's operation against one in ante-fixation, and similarly two chances for subsequent hernia.

6. As a matter of fact there are more deaths from Alexander's operation than from ante-fixation.

7. The results of Alexander's operation are often very unsatisfactory, so that either the patients are not benefited or are made worse, or abdominal section must be performed subsequently.

8. There is no real certainty that the causes which led to the retro-displacement are removed by Alexander's operation, mistakes of diagnosis are not rectified, obscure adhesions and diseases of the appendages are not detected.

In short, the operation is uncertain in its results; it may be very difficult of performance; it is by no means free from danger.

On the other hand, we have in intra-abdominal shortening of the round ligaments, or in ventro-fixation of the uterus, or in the combination of both, an operation which is certain in its results, for it affords an opportunity to make a diagnosis, to separate any and all adhesions, to discover and remove any disease of the appendages, to bring the uterus into a proper position, and to fasten it there.

It is not particularly difficult of execution for a trained abdominal surgeon, and no others should undertake it; at any rate, any difficulties are owing to intra-pelvic disease which would preclude any success with Alexander's operation; the difficulties are not accidental, inexplicable, and embarrassing, like failure to find the ligament at the inguinal ring; they are part of the disease, and stimulate the surgeon to succeed by employing his resources, instead of goading him to desperation by baffling his skill.

The only drawback is a supposed greater danger in this than in Alexander's operation, but even this I am inclined to dispute. To be sure, any abdominal section is more dangerous than an ideal and easy Alexander operation; but no one can tell beforehand which will be the easy one. My own fatal case was apparently an easy one, and I undertook it with no feeling of danger whatever. So of the other fatal cases reported

and unreported, for there are within my knowledge several unreported cases of death from shortening of the ligaments, or from operations begun for this purpose, and these occurred in the hands of eminent men and distinguished operators. I never heard of a fatal case of ante-fixation, and I can testify as to the results of my observation and experience, that on the average the sufferings of the patient are less, and the subsequent results are better with ante-fixation than with Alexander's operation. I know that it will be answered that all the objections to Alexander's operation fall to the ground if the procedure be correctly performed, and plenty of surgeons will report cases by the score, and say that they never have any trouble in finding the ligaments. In fact, the particular claim of this operation to popularity rests on the ease with which it can be performed, and its freedom from danger. I shall not deny that within well-defined limits the operation is safe and useful, but these limits are such as to greatly diminish the number of cases in which the procedure is available. In my opinion the operation is to be performed by no beginners, but only by such as by real training in gynecology and surgery are able to make an accurate diagnosis and to perform any operation carefully, skilfully, and aseptically ; and, moreover, by those who, by conscientious study on the cadaver, have a real knowledge of the anatomy of the part.

Such a limitation might seem too obvious to mention, but I am sorry to say there is growing up a widespread and quite erroneous impression that the Alexander operation is quite a little thing, and fit for those to undertake who only practise minor gynecology. It should be performed only when the adnexa are apparently healthy, when the uterus is entirely movable, and when it can be brought into ante-position by bimanual manipulation, and easily held there.

All cases of "adhesions" are ruled out by this limitation for reasons given above.

I know that this condition is contrary to the theory, or at least to the practice of many active operators, but from my

own knowledge and from conversation with others, I am certain that a very considerable number of cases are occurring where abdominal section has to be finally performed in patients who have already undergone the Alexander operation, some of them having been made worse and others not relieved by the latter procedure.

Whether acute retroflexion of the uterus is usually curable by Alexander's operation, even when there are no complications of any kind, is, I think, not yet quite decided. Certainly so many successful cases have been reported that probably this operation will be generally employed for the present. The number of such cases which are not relieved and finally require intra-abdominal ante-fixation may finally cause the latter procedure to become the one of election where consent can be obtained. Certainly, great caution should be used in promising cure by Alexander's operation, or there will be much disappointment in a considerable proportion of cases. It will be safer and more expedient to represent that this procedure offers a good chance of cure by a comparatively light operation if the anatomy of the parts makes the operation satisfactory; if not successful intra-abdominal ante-fixation can be employed. Personally, I prefer the latter procedure, for reasons which I have tried to make plain in this paper, and I shall use it when the whole decision is put upon me. I do not like tentative surgery and uncertain results, and I have not so much faith as many in the possibility of making a certain diagnosis without opening the abdomen.

The surgeon who performs Alexander's operation should use all the precautions and make all the preparations which are usual in performing abdominal section. He should remember that excellent operators have found that they have unintentionally opened the abdominal cavity.

If the ligaments are not found as they should be at the external ring, two courses are open to the operator; either to abandon the operation or to substitute for it what is frequently

done, but less often reported, viz., an extension of the operation by opening up the inguinal canal and looking for the ligaments there, or, if they are not found there, by entering the abdomen at the internal ring, and thus finding and securing the ligaments. I do not condemn the latter course in proper hands and under proper precautions; it is an effectual mode of securing the uterus in ante-position; it has no especial dangers if done deliberately and with due precautions, *but it is not Alexander's operation.* The objections to such an operation are, of course, the double incision and the double chance of hernia, so that it will hardly be advised as an operation of election, but as a means of escape from an embarrassing position, or of finishing a case where the second ligament cannot be found, when one has already been secured, this procedure has many advantages. Permission to do it should, if possible, be secured beforehand.

At the best, however, the securing of the ligaments by opening the abdomen in this way is an inconvenient and inferior method of performing intra-abdominal ante-fixation. It should not be confounded with Alexander's operation to the misleading of the inexperienced.

If the surgeon is not ready and able and prepared to finish his operation in this way, deliberately and by design, when necessary, he should withdraw from the operation if he cannot find the ligaments before he has gashed and mangled the tissues, or blundered into the abdominal cavity by mistake.

When all goes well the ligament should be found at once, either at the external ring, according to Alexander's original method, or through a small opening in the roof the canal of Nuck, according to a modification which many prefer. When the hook brings up the ligament at the first trial, as is frequently the case, the operation is one of the prettiest and neatest in surgery. It is all done in a few minutes, and does not even require a general anæsthetic. I have seen it done under cocaine. When the ligament is not thus readily found

it is best to open the canal of Nuck and turn up the fat, when the ligament should be found at the lower side under the fat. But if it is not found when the operator has hunted for it for half an hour, and not having the courage or preparations requisite for opening the abdominal cavity at the internal ring, he loses his nerve, and the blood gets in his eye, and the sweat pours from his face, *tum flumina mento precipitant*, while, with pernicious activity, he plunges his hook around in the groin, like a boy gaffing lobsters from under a rock, until the muscles look like Hamburger steak, then is the time for his next friend to gently take away the hook, and put in his hand the nozzle of the soothing irrigator, and appealingly but firmly hold before him the peaceful needle-holder.

I do not wish to be frivolous, nor would I imply that such a scene as I have described is common, nor would I admit that it ought to occur, but one of my objects in writing this paper is to combat the idea that the Alexander operation is always quite simple and easy, and a sort of minor surgical procedure which anyone can do. No trained surgeon who has good judgment and sound anatomical knowledge will ever find himself in such a predicament, and no other ought to attempt this operation.

This is not the place to go into any details of technique. Anyone who is to perform the operation will presumably study up the literature of the subject, which is abundant, and will see the operation performed, which is not difficult to bring about. To only two points would I call attention:

First. That the only certainty that what has been fished up as the round ligament is really such is afforded by seeing the peritoneum stripped back from it (somewhat as the skin is pulled off from the leg of a rabbit), and by having an assistant feel that traction on the ligament really moves the uterus. As far as gross appearances go, it is only too easy to mistake a bundle of fascia and muscular fibres for the ligaments, and I have no doubt that this error often occurs, thereby prolonging the operation and mangling the tissues.

Second. It is of the greatest importance that the uterus be brought into ante-position beforehand, and held there during the operation, preferably by the hands of a trained assistant. Without this precaution the retroflexed uterus may be drawn up as a whole, but without rectification of its axis, and, of course, with little or no relief of the symptoms.

That perfect asepsis is requisite is understood as a matter of course, and is emphasized by the history of Bozeman's case, which has been kindly placed by him at my disposal.

In intra-abdominal ante-fixation of the uterus there is a choice between the operations of ventro-fixation or direct suturing of the uterus against the abdominal wall, and the intra-abdominal shortening of the round ligaments by the operations of Polk or Wylie, or either of the latter procedures may be supplemented by stitches carried from the cornua of the uterus through the abdominal wall, the latter being the method which I usually employ. I have had no experience with Polk's method of fastening the round ligaments to each other in front of the uterus, and, therefore, I cannot express an opinion of its efficiency. It has appeared to me that with a small abdominal incision it is easier to fold and shorten each ligament separately, drawing first one cornu and then the other up toward the wound, after the method of Wylie. I secure the folds of ligament thus made with continuous cat-gut suture. To support the uterus while the surfaces of the folds in the ligaments are uniting, and to straighten out the uterus and to establish it definitely in its new position, I pass one suture of silkworm-gut on each side through the abdominal wall, through the junction of the uterus and the round ligament (avoiding the Fallopian tube), and out again through the abdominal wall near the point of entrance, passing the ends of each suture through a button, tying them together. In this way the uterus is held firmly forward for some ten days, but is not united to the abdominal wall by adhesions sufficiently firm to interfere with any subsequent pregnancy. On this account, and because the vascular tissues of the uterus itself

are little wounded, I prefer it to ventro-fixation or suture of the body of the uterus directly to the abdominal wall. An important point is to be sure that no blood is left to decompose in the utero-vesical fold, which is easily prevented by use of a small sponge, or by irrigation, or by operation in the Trendelenburg posture.

Such an operation I consider safe enough to be a worthy rival of the Alexander operation even in uncomplicated cases with a mobile uterus, while in all cases of doubtful diagnosis or of old "adhesions," it is in my opinion the proper one to employ, to the exclusion of other operations. In a large proportion of the latter class of cases, however, the uterine appendages will be found so diseased that their removal is required, and when this is performed the uterus, which has been held backward by adherent tubes, will at once resume its proper place, aided by the shortening of the broad ligaments, which results from tying off the appendages.

As I have already emphasized the uncertainties, embarrassments and difficulties of Alexander's operation, so by contrast I must testify to the sureness, directness, and plain advantages of the intra-abdominal method of dealing with backward displacements of the uterus. The diagnosis is established surely and at once; the operator has no unforeseen difficulties; warily, rapidly, and surely he feels his way and recognizes his landmarks; separates adhesions, if there be any, cautiously and safely; discovers and removes diseased appendages, if present; finds out if there be myomatous nodules in the uterus, and acts accordingly. He puts the womb where it should be exactly; he fastens it there securely; he finishes the operation promptly, and the patient is relieved certainly. I confidently await the results of future statistics and the consensus of thoughtful and experienced surgeons as to the relative advantages of the different operations described above.

Cases.—In accordance with my promise in the beginning of this paper I shall now give in brief the results of my experience with operations for retro-displacements of the uterus,

omitting all reference to a great number of plastic operations for repair of the perineum, etc. I have performed Alexander's operation some thirty times, and, on the whole, my results have been satisfactory. I have never failed to find the ligaments, although sometimes the search has been protracted and difficult, and sometimes the ligament, when found, has been a mere thread. In over one-fourth of the cases there has been more or less suppuration of one or both sides, usually coming on late, and due, as I suppose, to failure of the tissues to absorb the necrotic loop of the ligament which has been injured in its nutrition by the operation. Twice I have entered the peritoneal cavity, but no injury resulted.

Twice the operation was followed by hernia on one side. One case required subsequent abdominal section and the removal of a diseased adherent tube.

Most of the patients were cured of their sufferings by the operation; five or six reported themselves as no better. One patient died of purulent peritonitis.

I shall not report any of the cases in which the operation was easy and the result satisfactory. Suffice it to say that no operation in surgery is neater or more elegant than the Alexander operation when all goes well; neither will it be of interest to describe more than one case as a sample of the provoking and difficult variety.

Case I.—Mrs. X., patient of Dr. Pinkham, of Lynn; retroversion; unable to wear a pessary; much suffering; could not work or enjoy any reasonable comfort in life.

Operation in Lynn Hospital in the presence of the staff. Right ligament found without any difficulty; fished up with hook, through a small opening in roof of canal of Nuck; drawn out, and covered with gauze pad. Incision on left side; opened roof of canal of Nuck; no ligament found; careful search; still no ligament. Opened inguinal canal at external ring; no ligament; turned out fat from canal of Nuck; found small cord; recognized artery and nerve, but very few muscular fibres; could not be sure that this was ligament; opened canal to internal inguinal

ring; pulled out fold of parietal abdominal peritoneum; made by mistake a small opening through the peritoneum; united it with catgut; went back to the little cord and carefully traced it downward; found reflection of peritoneum from this cord; tried to develop it further; broke it; irrigated and closed wound; pulled up and secured ligament on left side, and closed that wound also; went away mortified and disgusted.

Patient recovered without accident, and was fortunately much relieved by this one-sided, uncompleted, alleged surgical operation.

Case II.—Miss S., retroflexion of many years' standing; had been treated by me at intervals for four years, having first been brought to the hospital, after having fainted in a railroad station from pain and distress caused by the displacement.

By the use of a pessary, after careful reposition of the uterus, the patient was able to work. Her discomfort was such, however, that she was never really well, and finally, last spring, I performed Alexander's operation. The uterus seemed movable, and the ligaments were found and drawn out without difficulty. Five days after operation the patient had a great deal of pain and difficulty in the bladder, and in retaining her urine; temperature about 102½°; fulness and tenderness at vault of vagina; uterus seemed to have turned back again. Pelvic inflammation subsided, but convalescence was slow and unsatisfactory. After leaving the Charity Club Hospital she went to St. Luke's Home for Convalescents, and spent some two months there, but did not regain her health. I had her readmitted to the hospital and performed abdominal section. The uterus was retroflexed and the left tube was diseased and adherent to the intestine and pelvic wall. The tube and the corresponding ovary were removed, and the uterus fastened to the abdominal wall by silkworm-gut sutures in the manner already described.

In this case either the disease of the tube was a consequence of the first operation, or, and more probably, there were "adhesions" present which had resulted from some inflammation, which had very likely been caused by previous attempts to rectify the position of the uterus, either by myself or by some of the other physicians who had treated the patient. The

disease of the tube and the adhesions, although they could not be detected before or during the first operation, were the reason why the patient could not be relieved of her sufferings by pessaries, packing, etc., and also caused the failure of the first operation. The second operation cured the patient.[1]

Case III.—Mrs. W., aged twenty-five years, had been suffering for several years from ulcerative proctitis, aggravated by a retroversion of the uterus. The disease of the rectum was relieved by careful irrigation and by the insertion of a small glass tube, having a flange at one end, such as is meant for drainage of the uterus after dilatation. Some relief was also experienced from wearing a pessary; nevertheless, the patient was not cured by three weeks of this treatment at my hospital, and by several months of thoroughly careful treatment at home, and she returned to me for further advice and relief. Dr. W. E. Otis saw her with me in consultation, and on examination, under ether, he decided that the rectal disease was no better than when previously seen, but that there was evidence of commencing stricture of the rectum, for which Nos. 6 and 7 rectal bougies were passed without difficulty or the use of violence. We agreed that no surgical operation would benefit the rectum except a median proctotomy, but as this seemed a serious operation for a person in feeble health, we agreed to wait and consult the relatives of the patient before performing it. According to the previous understanding, however, I performed Alexander's operation to relieve the patient from the necessity of wearing a pessary. I had represented to the lady's husband that this was a comparatively slight operation, involving practically no danger to life. It was performed without any special difficulty, although the search for the ligaments was somewhat protracted. Two days later the patient had a chill and temperature of 104°. There was no sign of redness or swelling around the wounds; the bowels were moved with salines. On the next day, as the high temperature continued, although the wounds seemed perfectly healthy, I even went so far as to open them to look for virulent pus, but found none; neither

[1] A hernia subsequently developed at the seat of the incision for Alexander's operation, in the right groin.

could any localized abscess be found by vaginal examination. A tent of iodoform gauze was placed in each wound, and no sign of redness or suppuration ever appeared in either incision. The patient grew worse, with chills and high temperature, and died on the sixth day after the operation. At the autopsy the cause of death was found to be general purulent peritonitis. There was no sign of infection of either of the inguinal wounds, no pus, or extravasated blood in either of them; the parietal layer of abdominal peritoneum was not perforated or injured under either wound; neither were the intestines adherent at the inguinal ring on either side. There was no perforation of the rectum, nor any signs of peri-rectal suppuration. The only thing that we could be certain about was that the patient was dead, and while I cannot believe that there was any direct infection of the wounds, yet it seems probable that in lifting the uterus with the fingers—for no sound was used—there must have been an infection of the cervical canal by some matter escaping from the rectum, an infection which, travelling through the tube, reached the peritoneum. One of the tubes was found to contain some grumous semi-fluid matter, which may have been squeezed out in lifting the uterus. It was a sad experience, and one of the most distressing which has ever happened to me during my surgical activity.

I am indebted to the courtesy of Dr. Bozeman for the following history, not published hitherto:

9 West Thirty-first Street, New York.

E. W. Cushing, M.D.

My dear Doctor: I am in receipt of your favor of the 15th instant, asking me for information regarding the history of the case upon which I performed an Alexander operation in the Woman's Hospital, and which proved fatal.

In reply to your questions, I would state that from the defectiveness of the clinical record in the hospital-book, and my utter failure to obtain any notes of the autopsy of the case, if any were made, I am compelled to rely on my recollection of the facts and circumstances attending the operation in question.

Case IV.—The patient, Miss T., aged forty-four years, was admitted into my service November 24, 1884, laboring under im-

mobile retroflexion of the uterus, presenting the additional complications of engorgement, metrorrhagia, leucorrhœa, inveterate constipation, and frequent micturition. The leucorrhœa had existed for twenty years.

When I began the treatment of this case my main object was to overcome the immobility of the uterus and to restore the organ to as favorable position and relationship in the pelvis as possible. This I undertook to do by the process of graduated pressure, first with dry cotton pledgets, and then with compressed sponges in oil silk bags, introduced in the supported knee-elbow position—a plan of treatment I had been employing successfully to a high degree in this class of cases for more than twenty years. This course, pursued for five or six weeks, resulted in giving free mobility and a fair degree of elevation of the uterus, with amelioration and relief of all the symptoms indicated. The so-called Alexander operation, proposed only a few months prior to this date, finally seemed to me to offer some rational advantages over the use of Hodges's pessary as a means of maintaining the uterus in position as accomplished by columning the vagina, and I was thus led to make a trial of it after rehearsing the method upon the dead subject. The operation was performed on January 30, 1885 (the first employment of the procedure in the Woman's Hospital, or in New York, as is believed). It was applied to both round ligaments. The right one was exposed by incision, drawn out upward of two inches, cut off, and secured in the wound by the button suture. On the left side the exposure and shortening of the cord was less successful. In the after-treatment the case progressed satisfactorily until the sixth day, when the sutures were removed, showing a little suppuration in the line of cicatrization. On the eighth day the temperature rose to 102°; on the ninth day to 103°, with some nausea and vomiting; on the tenth there was slight delirium, but temperature normal; on the eleventh day the condition slightly better, but there was now a little increase of the swelling of the face that had existed for two or three days.

On February 13th, the temperature only 100°; prostration still continuing. Death resulted on the fourteenth day after the operation.

Whether there was any kidney complication present, sometimes known to attend the pathological conditions stated in the case, is not known. The symptoms of septicæmia developing on the eighth day, however, would seem to have been referable to the drawing out of ends of the round ligaments from the closed wounds after the sutures were removed. The slight resiliency of the retroflexed uterus remaining (the condition that it was hoped the operation would counteract), it is believed was sufficient to account for the accident named, and may be apprehended in all such cases from the operation, however well performed. I operated upon a similar case a few weeks later, applying the procedure to one side only, and using the same form of suture without an untoward symptom. But here there was no resiliency of the uterus remaining to cause traction upon the cord, the previous preparatory treatment by graduated pressure having been carried sufficiently far to counteract this danger.

Thus ended my experience with the Alexander operation. My estimate of it is that if meritorious it should supply the needed support and maintain a uterus in good position, even when partially restored to mobility, and that if complete mobility, with normal swing of the organ, be the *sine qua non* for the successful employment of it, as by other far less dangerous methods, the question, for my part, may well be asked, where it its merit?

Yours very truly,

NATHAN BOZEMAN, M.D.

P. S.—You are at liberty to use or publish entire this communication if you so desire.

I learn from Dr. H. C. Coe, who made and recorded the autopsy, that this patient died from pyæmia, originating in the inguinal incision. There was no peritonitis, but there were metastatic abscesses in various organs, evidently due to pyæmic infection of the veins around the wounds, and of the iliac vessels. It is to be remembered that the operation was performed before the modern aseptic methods were in vogue in this country.

I can relate in a few words the result of my experience in intra-abdominal ante-fixation of the uterus. Leaving out of

consideration some thirty cases in which patients were sent to me, suffering from retroversions, where Alexander's operation was considered but not performed, and where, on opening the abdomen, the appendages were found so adherent and diseased as to require removal, but where, with or without the shortening of the round ligaments internally after Wylie's method, the uterus was restored to its normal position without antefixation, and also leaving out of consideration several cases in which, after removal of tumors, I fastened the uterus forward simply to prevent it from falling backward too far, I have performed such an operation designedly for the relief of backward displacements eighteen times. All the patients recovered without any accident. In all the uterus was held permanently in its new position. In two cases the patients did not experience much benefit from the operation as far as concerns certain nervous symptoms which were expected to disappear on correcting the displacement; the other sixteen were thoroughly cured of their sufferings.

Of these patients, one had been in bed for over a year, the displacement having come on after a fall on the ice. The rigidity of the abdominal muscles, even under ether, was such that it was impossible to replace the uterus, and the most painstaking care of her attending physician failed to relieve her sufferings or to enable her to walk. She rose from bed after convalescing from the operation, and is now in blooming health. No adhesions were found at the operation.

In another case a tumor the size of a small egg was found in the left ovary. This had been sufficient to upset the uterus and to give rise to very severe attacks of gastralgia, hysteria, and dysparæunia. The tumor could not be detected by bimanual palpation. Fortunately abdominal section was preferred to Alexander's operation both by the patient and by her physician, Dr. Cottrell. The tumor was removed, the uterus was fastened forward, and the cure was complete.

A third patient had suffered pain and inability to work for ten years or more. Conscientious and skilled treatment by

pessaries by her physicians, Drs. Tolman and Mooers, failed to keep the uterus in place or relieve her sufferings. A simple band of adhesions between the right tube and the colon was found on abdominal section, and easily ruptured. This had been sufficient to pull the movable uterus backward and to render the use of a pessary intolerable.

In various other cases similar anomalies were found which made me glad that I had opened the abdomen instead of trusting to Alexander's operation. In one case, already described, the latter operation had previously been performed.

I know of many cases in Boston where it has been necessary to make abdominal section after Alexander's operation had failed to succeed, owing to the presence of "adhesions," which were unrecognized or disregarded.

My experiences, therefore, have been such that I am continually led to distrust Alexander's operation more and more and correspondingly to rely on abdominal section in cases of backward displacement of the uterus which require surgical relief.

My conclusions are:

1. That many cases of retroflexion, and most cases of retroversion, if uncomplicated, cause little serious disturbance and require no operative treatment.

2. That severe *retroflexion* in the virgin, when giving rise to symptoms sufficiently severe to call for treatment, is best relieved by operation.

3. That cases of retroversion which cannot be made comfortable by simple measures, such as the use of a pessary, are usually obdurate on account of some complication which requires operation.

4. That of the operations designed for the cure of retrodisplacements the only ones worth considering are the Alexander-Adams operation, the various methods of intra-abdominal shortening of the round ligaments, and ventro-fixation.

5. That there is a legitimate and useful field for Alex-

ander's operation, subject to the following limitations: The uterus must be free; the diagnosis must be exact; the anatomical conditions must be favorable.

6. That when these conditions are not present it is better to make a median abdominal incision, and to act according to circumstances.

7. That after opening the abdomen, if no complications are present, the uterus may be best secured in ante-position by shortening the round ligaments internally, and by placing at each cornu of the uterus one suture, which passes through the abdominal wall.

8. That the latter operation may properly be performed instead of that of Alexander, if the surgeon prefers it, as it is equally safe and more reliable on the average.

168 Newbury St., Boston, Mass.